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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,392	01/23/2002	Hideyuki Nakamura	Q68202	3938

23373 7590 09/11/2003

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037

13
EXAMINER

SCHILLING, RICHARD L

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

14/052392

Applicant(s)

Nakamura et al

Examiner

R L Schilling

Group Art Unit

1752

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 8-20-03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☐ Claim(s) 1-20, 23-29 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-20, 23-29 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Art Unit 1752

1. Claims 1-20 and 23-²⁹~~28~~ are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Japanese Publication 2001/310941, Japanese Publication 2001/328,287 and Kawakami et al. The Japanese publications (see particularly the U.S. patent equivalent to Wachi et al. at column 3, lines 41-60; column 7, lines 38-45; column 11, lines 1-21; column 12, lines 17-60; column 13, lines 23-51; column 14, lines 15-65; column 18, lines 26-54; Examples 1-5) disclose heat transfer materials and methods for making color proofs wherein the ratio of reflection density to pigmented transfer layer thickness in the working Examples is over 2.5. Image transfer layers and image receiving layers used in the working Examples of the Japanese publications contain the same polyvinyl butyral binders as used in the working Examples in applicants' specification and therefore would inherently have the same contact angles in relation to water as set forth in the instant claims. The pigmented transfer layers in the Japanese publications have pigment concentrations and thicknesses as set forth in applicants' specification. The transfer layers in the Japanese publications also contain surfactants and waxes as used in applicants' working Examples. The photothermal conversion layers in the Japanese publications have preferred optical densities of .1-1.3 and thicknesses of .03-.8 which would include the optical density to thickness ratios set forth in instant claim 20. The requirement for a

Art Unit 1752

resolution of 2,400 dpi or more when the elements of the instant claims are used in the process is inherent in the elements of the Japanese publications. Pages 20 and 31 of applicants' specification disclose that density and definition of transferred image is a function of transfer image thickness and density and water contact angles of the image transfer layer and image receiving layer and also of the sensitivity of the photoconversion layer, i.e. the absorption to thickness ratio of the photoconversion layer. The Japanese publications have highly sensitive photoconversion layers with high absorption per thickness as required by instant claim 20. Also, the resolution of the instant claims depends upon laser exposure conditions. The elements of the Japanese publications would inherently be capable of forming resolutions as required by the instant claims since they have transfer layers and photoconversion layers as set forth in applicants' specification for obtaining high resolution images. The Japanese publications do not disclose the image receiving layer size required by the instant claims. However, Kawakami et al. (see particularly column 4, lines 19-30; column 10, lines 4-17; column 21, lines 50-55; column 11, lines 51-56) discloses making transfer images with large size images required by the instant claims using laser transfer processes with transfer elements similar to the transfer elements used in the Japanese publications. Therefore, it would be obvious to one

Art Unit 1752

skilled in the art to use the materials and processes of the Japanese publications to make large size images as known in the art as disclosed in Kawakami et al. The size of the image made would be a matter of choice to one skilled in the art.

2. Claims 1-20, and 23-~~28~~²⁹ are rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi et al. or Japanese Publication 2000/355177 to Takahashi et al. both further in view of Kawakami et al. The Japanese publication is equivalent to the U.S. patent to Takahashi. Takahashi et al. (see particularly column 10, lines 24-57; column 11, lines 43-50) and its Japanese equivalent use photothermal conversion layers as thin as possible to increase sensitivity with optical density being preferably .3-1.2 with preferred thicknesses of .05-.3 for ratios as called for in instant claim 20. Since Takahashi et al. and its Japanese equivalent disclose highly sensitive photothermal conversion layers as set forth in instant claim 20 and in applicants' specification, the transfer layers and image receiving layers as set forth in applicants' specification, the elements of Takahashi et al. and its Japanese equivalent may inherently be used in processes for forming images having resolutions of 2,400 dpi or more as required by the instant claims in processes using laser exposure to obtain those required resolutions. The transfer layers in Takahashi et al. and its Japanese equivalent have layer thicknesses and pigment concentrations the same as those set

Art Unit 1752

forth in applicants' specification. In working Example 1 of Takahashi et al. and its Japanese equivalent, polyvinyl butyral is used as a binder in the transfer layers and image receiving layers and would inherently have water contact angles as required by the instant claims. The layers in the working Examples of Takahashi et al. and its Japanese equivalent also include surfactants and waxes as used in applicants' working Examples. Takahashi et al. and its Japanese equivalent do not disclose image receiving layer sizes as required by the instant claims. However, Kawakami et al. (see particularly column 4, lines 19-30; column 10, lines 4-17; column 21, lines 50-55; column 11, lines 51-56) discloses making transfer images with large size images required by the instant claims using laser transfer processes with transfer elements similar to the transfer elements used in Takahashi et al. and its Japanese equivalent. Therefore, it would be obvious to one skilled in the art to use the materials and processes of Takahashi et al. and its Japanese equivalent to make large size images as known in the art as disclosed in Kawakami et al. The size of the image made would be a matter of choice to one skilled in the art.

19 3. Claims 1-14, 20 and 23-²⁹~~28~~ are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto et al. or Tsuno et al. both further in view of Kawakami et al. As explained in paragraph 4 of the last Office action filed March

Art Unit 1752

20, 2003, the transfer elements and the image receiving elements of Yamamoto et al. and Tsuno et al. have the required transfer layers, photoconversion layers and image receiving layer compositions as set forth in the instant claims. Tsuno et al. and Yamamoto et al. do not disclose sizes of their image receiving layers. However, Kawakami et al. (see particularly column 4, lines 19-30; column 10, lines 4-17; column 21, lines 50-55; column 11, lines 51-56) disclose making transfer images with large size images required by the instant claims using laser transfer processes with transfer elements and image receiving elements similar to the elements used in Tsuno et al. and Yamamoto et al. Therefore, it would be obvious to one skilled in the art to use the materials and processes of Tsuno et al. and Yamamoto et al. to make large size images as known in the art as disclosed in Kawakami et al. The size of the image made would be a matter of choice to one skilled in the art.

4. Applicants' arguments filed August 20, 2003 have been fully considered but they are not deemed to be persuasive. Applicants' argument that one skilled in the art would not use the processes of the above applied prior art since vacuum adhesion would be poor for large size elements is unconvincing since Kawakami et al. discloses vacuum adhesion transfer techniques for large size image receiving layers and transfer elements as set forth in the instant claims. The transfer

Art Unit 1752

elements and image receiving elements used in Kawakami et al. are similar to those set forth in Takahashi et al. and its Japanese equivalent, the Japanese publications to Wachi et al., Tsuno et al. and Yamamoto et al. Therefore, one skilled in the art would know from the teachings in Kawakami et al. that the elements in the above applied references may be used in a large size format even if vacuum adhesion contact is used during transfer. Also, the instant claims are not limited to using vacuum contact.

5. Miyake et al. and its Japanese equivalent 2000/225776 are cited of interest in the art as disclosing image transfer elements similar to those set forth in the instant claims with optical density to thickness ratios for the transfer layers and photothermal conversion layers in the working Examples of Miyake et al. being within the scope of the required values of the instant claims. Takahashi et al. '562 is cited of interest in the art as disclosing thermal transfer processes for forming color proofs using thermal transfer elements with light to heat conversion layers and transfer layers with pigments.

6. Any inquiry concerning this communication should be directed to Mr. Schilling at telephone number (703) 308-4403.

RLSchilling:cdc

September 8, 2003

RICHARD L. SCHILLING
PRIMARY EXAMINER
GROUP 1100-1752

